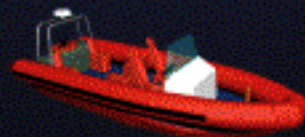# INTEGRATED DEEPWATER SYSTEM (IDS)

18 November 2004

CAPT. Douglas Russell

Homeland Security

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Agenda

- **Milestones Reached**

- **Looking Ahead**

- **The Budget**

- **New Requirements – Post 9/11**

Surface Implementation: Summary

Maritime Security Cutter, Large (WMSL)

- Funding in FY04 and FY05 request provide design and development of WMSL lead ship and building second WMSL.
- Startfab for this first-in-class occurred on 9 September 2004, with the keel laying to follow, in April 2005. The anticipated date of delivery for the lead ship will be the second quarter of 2007.
- Naval Operational Capacity (NOC) and DHS capability incorporated into design.

Maritime Security Cutter, Medium (WMSM)

- Congress funded in FY04 appropriations due to heightened operational tempo of the Coast Guard and the need to meet an expanding mission portfolio with increasingly deteriorating fleet assets.
- The start of the design and final requirements work for the 341-foot medium endurance cutter contract signed June 2004
- Accelerated the launch by approximately three years.
- Potential for synergy with LCS (Littoral Combat Ship).

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Surface Implementation: Summary

Maritime Patrol Coastal (WPC)

- Initiated Concept and Preliminary design to assess composite hull; expectation of reasonable period of time to demonstrate the suitability and performance of the material in a marine environment before the entire class is built of same material.

- As a result of continued deterioration of the material condition of the Island Class 110-foot patrol boats, the decision was made to advance capabilities for the design and development of the WPC to replace existing 110-foot patrol boats.

- Goal is to accelerate WPC delivery in 2006

Maritime Patrol Boat (WPB)

- Currently eight cutters under contract; hulls 9-12 are under active discussion.

- MATAGORDA, METOMPKIN, PADRE & ATTU delivered; 4 hulls at Bollinger (VASHON, NUNIVAK, MONHEGAN & MANITOU).

- Challenges faced include the quality of the product, the Short Range Prosecutor, TEMPEST equipment, the hull paint, and the post delivery maintenance availability (PDMA).

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WMSL Accomplishments

- Engineering products scheduled to be at 70% issued before start fab
  - LHD 8 achieved 50% at start fab
- 68% of major and technical equipment/systems awarded and balance in process
- Critical raw materials are in yard to support construction
- Workstation Management and EVMS metric systems in-place
- Maximizing facility upgrades and timing to ensure Coast Guard benefits
- Prepared and ready to start and sustain fabrication

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Maritime Security Cutter, Medium (WMSM)

- FY04 and FY05 budgets continue conceptual development and study of OPC design
- Recent discussions with CNO Israeli Navy VCNO (24 Feb 04) explored requirements synergies, cost drivers, schedule; Memorandum of Intent (MOI) being negotiated for information exchange
- Working toward Foreign Military Sales (FMS) case for technical services
- FY04 C-stage $20M supports partial detailed design
- Linkage to LCS

U.S. COAST GUARD

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Maritime Patrol Coastal (WPC)

Fast Response Cutter (FRC)

- **Naval Operational Capability**
  - **Ballistic Protection**
  - **Mine Avoidance**
  - **Chemical, Biological and Radiological Environment**
- **Interoperability**
  - **AT/FP requirements**
  - **Expeditionary requirements**
- **Initial Concept Study Complete**
  - **Composite Hull**
- **Assessment of Business Case**
- **FY04 Appropriations included $66M for Patrol boats (WPC and 123 conversion)**

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Maritime Patrol Boat (WPB)

Enhanced Bridge

- 360-degree view
- Deck area nearly doubled
- Centralized Alarm and Monitoring System
- Portable Bridge Wing Controls

Enhanced C4ISR Suite

New Deckhouse
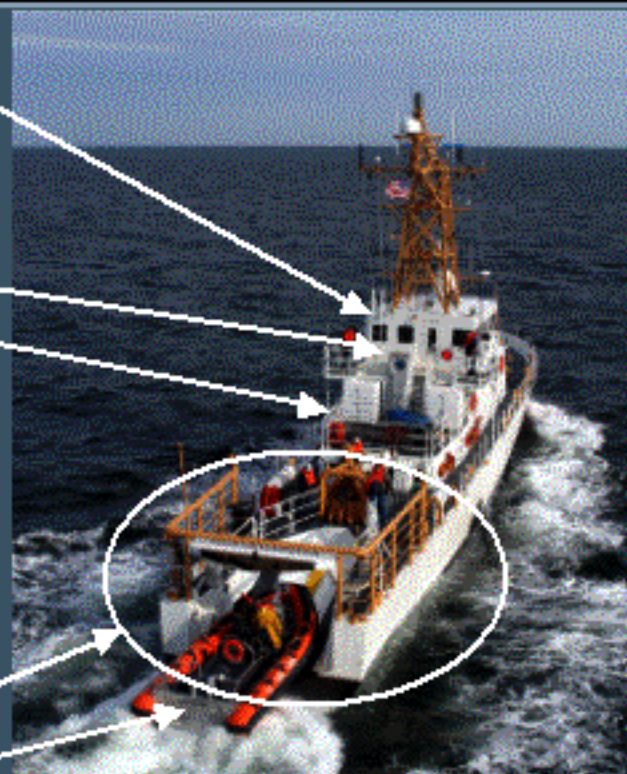
- Staterooms allow dual-gender crew
- Admin office with medical triage area
- Crewmembers relocated from noisy aft berthing area

Performance Enhancements

- Larger Rudders
- More Efficient Propellers
- Improved Engine Controls
- Machinery Monitoring

13-Foot Stern Extension with ramp

Short-Range Prosecutor

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Air Implementation: Summary

HH-65

HH-60J

Maritime Patrol Aircraft (MPA)

Eagle Eye (VUAV)

- Re-engining to restore safe & reliable operations
- ICGS selected Turbomeca as the supplier
- American Eurocopter in negotiation for aircraft Mod kits
- 1st new engine was installed in May
- Long-term plan is to convert HH-65 to MCH

- HH-60 Legacy upgrades include new avionics, radio, navigation, and sensor packages.
- 8 MH-68 Stingray leased for assignment to Helicopter Interdiction Tactical Squadron Ten (HITRON)

- Delivery of 2 CASA in early 2006, (mission mods late 2006)
- Ongoing effort to determine optimal mix of HC-130 and the CASA to meet the overall system requirements

- Completed successful Preliminary Design Review (PDR)
- VUAV Design and development costs funded in FY04; FY05 request includes purchase of two VUAVs
- Current schedule project testing through mid-2007, Initial Operational Capability (IOC) Spring 2008

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HH-65 Re-engining

- The Delivery Task Order with ICGS was finalized on 17 September 2004.

- The team includes Coast Guard, ICGS (Lockheed Martin), Turbomeca and American Eurocopter personnel.

- The first HH-65 has been re-engined, flight tested, delivered to ATC Mobile, and the first group of pilots has begun training on the aircraft.

- The Turbomeca engine meets the anticipated airborne use of force and vertical insertion power requirements that are now included in the Multi-misison Cutter Helicopter mission profile.

- The fiscal year 2005 Appropriations Bill included $99M for the HH-65 re-engining.

- The fiscal year 2005 Appropriations Bill language directs the Coast Guard to achieve a 24-month completion schedule for 84 aircraft.

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C4ISR Implementation: Summary

Legacy Cutter Upgrades

- SIPRNET & Classified LAN:
  - WMEC 270 – 12 complete, 13 in all
  - WMEC 378 – 6 complete, 2 more scheduled complete Sept 04, 9th to be complete Oct 04, 3 added to Deepwater contract
  - WMEC 210 – Plan to start Sept 04

Legacy Shore Upgrades

- SIPRNET & Classified LAN
  - *CAMSLANT, Complete*
  - *CAMSPAC, Complete*

Maritime Domain Awareness Center ribbon cutting April 2004

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Maritime Domain Awareness
The Deepwater C4ISR Contribution

Maritime Domain Awareness is the **effective understanding** of **anything associated with** the global maritime environment that could impact the **security, safety, economy, or environment** of the United States.

The Deepwater C4ISR system is a network-centric system designed to ensure seamless interoperability

- Shared tracks and real-time data streams.

- On-line intelligence.

- Robust and seamless connectivity and continuous coordination.

- Stand-alone capability.

- Supplemented by active and passive sensors.

- Expanded area of surveillance and detection areas.

- Improved communications with all federal, state and local agencies and merchant shipping.

Operational effectiveness enhanced by common maritime operational picture

Logistic Summary

System Level ILS Management and Design Planning

- Development and delivery of System of System (SoS) Support Strategy and supporting Products

- Development of Key Performance Parameters (KPPs) for Performance-Based Logistics (PBL)

Business Process Re-engineering

- Business Case Analyses (BCA) for re-engineering candidates due summer '04

Facilities' Support Analyses

- Infrastructure impact assessments developed via IDS partnership

Logistics Information System (LIMS)

- Design and implementation of integrated support tool

- Currently in use for modified 123' WPBs for work orders and parts requisitioning

Fiscal Year 2005 Appropriations Bill

- **The FY05 bill increases the overall Coast Guard discretionary budget by 9% above FY04.**

- **Deepwater was funded at $724 million; This is above both the FY04 appropriations ($668 million) and the President's FY05 budget request of $678 million.**

- **Bill language requires CG to submit with the FY06 budget, a new Deepwater baseline that identifies revised acquisition timelines for each asset contained in the Deepwater program**

- **Bill language requires CG to provide enhanced Capital Investment Plan with the FY06 budget submission**

Fiscal Year 2005 Appropriations Bill

- **Bill language requires the FY06 budget include an amount for the CG that is sufficient to fund delivery of a long-term maritime patrol aircraft**

- **Directs CG to report on its plan for maintenance of all its legacy assets**

- **The additional HH-65 re-engining funding provided shall be used to achieve a 24-month completion schedule**

- **Provided $30M for 110' – 123' conversions and $30M for Fast Response Cutter design**

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Fiscal Year 2005 Appropriations Bill :

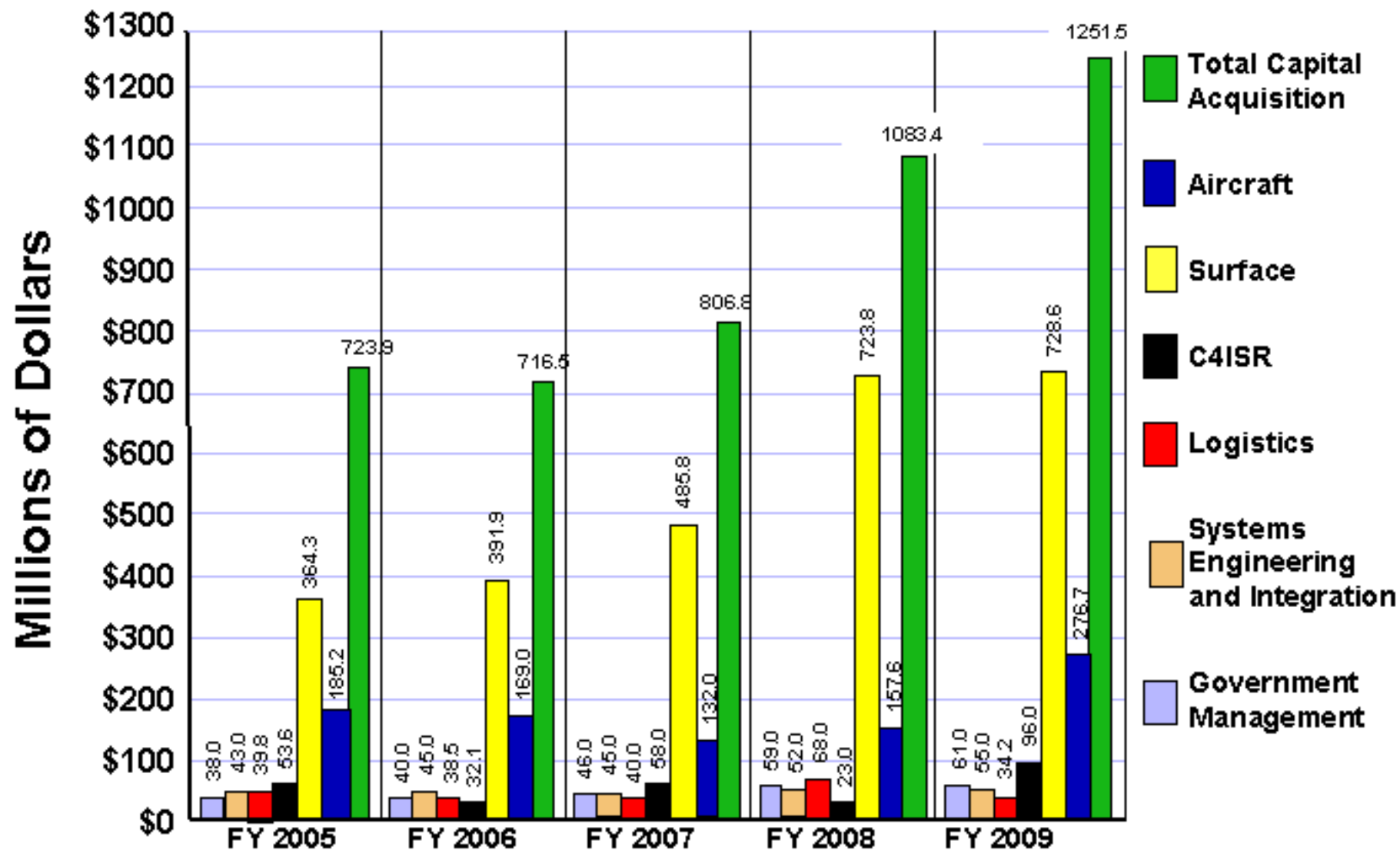| Deepwater:	FY05 Funding
Aircraft	**$185,250,000**
Maritime patrol aircraft	$ 5,250,000
VTOL unmanned aerial vehicle (VUAV)	$ 43,000,000
Capability enhancements for HH-60 Avionics	$ 15,000,000
Capability for HC-130 aircraft radar	$ 9,000,000
HH65 re-engining project	$ 99,000,000
Convert surveillance aircraft	$ 14,000,000
Surface Ships	**$ 364,300,000**
Maritime Security Cutter, Large (WMSL)	$ 264,500,000
Maritime Security Cutter, Medium (WMSM)	$ 25,000,000
IDS patrol boat (110- to 123- conversion)	$ 30,000,000
Maritime Patrol Costal (WPC)	$ 30,000,000
IDS small boats	$ 2,300,000
270 WMEC Sustainment	$ 12,500,000
C4ISR	**$ 53,600,000**
Command and control system for COP	$ 31,000,000
270- WMEC C4ISR upgrades	$ 1,500,000
CAMS upgrade at shore sites	$ 19,500,000
SEI Equipment for 270- WMEC & 378- WHEC	$ 1,600,000
Logistics	**$ 39,800,000**
ICGS Development	$ 15,100,000
Shore sites	$ 1,600,000
Facilities required for future asset deployments	$ 23,100,000
ICGS Management	**$ 43,000,000**
Government program management/ICGS	**$ 38,000,000**
Subtotal, Deepwater	**$723,950,000**
AC&I Total	**$982,200,000**

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Future Year Homeland Security Plan (FYHSP)

Projected FY05-FY09 IDS BUDGET PLANS

Bar chart. Y-axis: Millions of Dollars ($0 to $1300). X-axis: FY 2005, FY 2006, FY 2007, FY 2008, FY 2009.

Legend:
- Total Capital Acquisition (green)
- Aircraft (blue)
- Surface (yellow)
- C4ISR (black)
- Logistics (red)
- Systems Engineering and Integration (tan)
- Government Management (light purple)

Category	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Government Management	38.0	40.0	46.0	59.0	61.0
Systems Engineering and Integration	43.0	45.0	45.0	52.0	55.0
Logistics	39.8	38.5	40.0	68.0	34.2
C4ISR	53.6	32.1	58.0	23.0	96.0
Surface	364.3	391.9	485.8	723.8	728.6
Aircraft	185.2	169.0	132.0	157.6	276.7
Total Capital Acquisition	723.9	716.5	806.8	1083.4	1251.5

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COAST GUARD PRIORITIES IN THE PROJECTED FY05-FY09 FYHSP BUDGET PLAN

1. **Re-engine the HH-65 Fleet.**

   - Continuing immediate and definitive action to return the Coast Guard's HH-65 fleet to safe and reliable operations remains the Coast Guard's highest priority.

2. **Accelerate the recapitalization of Patrol Boats.**

   - The 110-foot patrol boat fleet has experienced 20 hull breaches requiring emergency drydocks.

3. **Airborne Use of Force**

   - The Coast Guard's Airborne Use of Force (AUF) program has been extraordinarily successful in counterdrug operations, with 56 interdictions and over $4B of drugs interdicted.

4. **Accelerate design and production of the Maritime Security Cutter, Medium (WMSM).**

   - The FYSHP will allow for the urgently needed acceleration of the design and production of the Maritime Security Cutter, Medium (WMSM).

Additional Considerations

- Under the FYHSP, the 270' and 210' WMECs are scheduled to receive legacy asset sustainment funding to ensure operational capabilities until the WMSMs and WMSLs are "on-line."

- In the aviation domain, the HH-65 had to be the highest priority because of safety concerns.
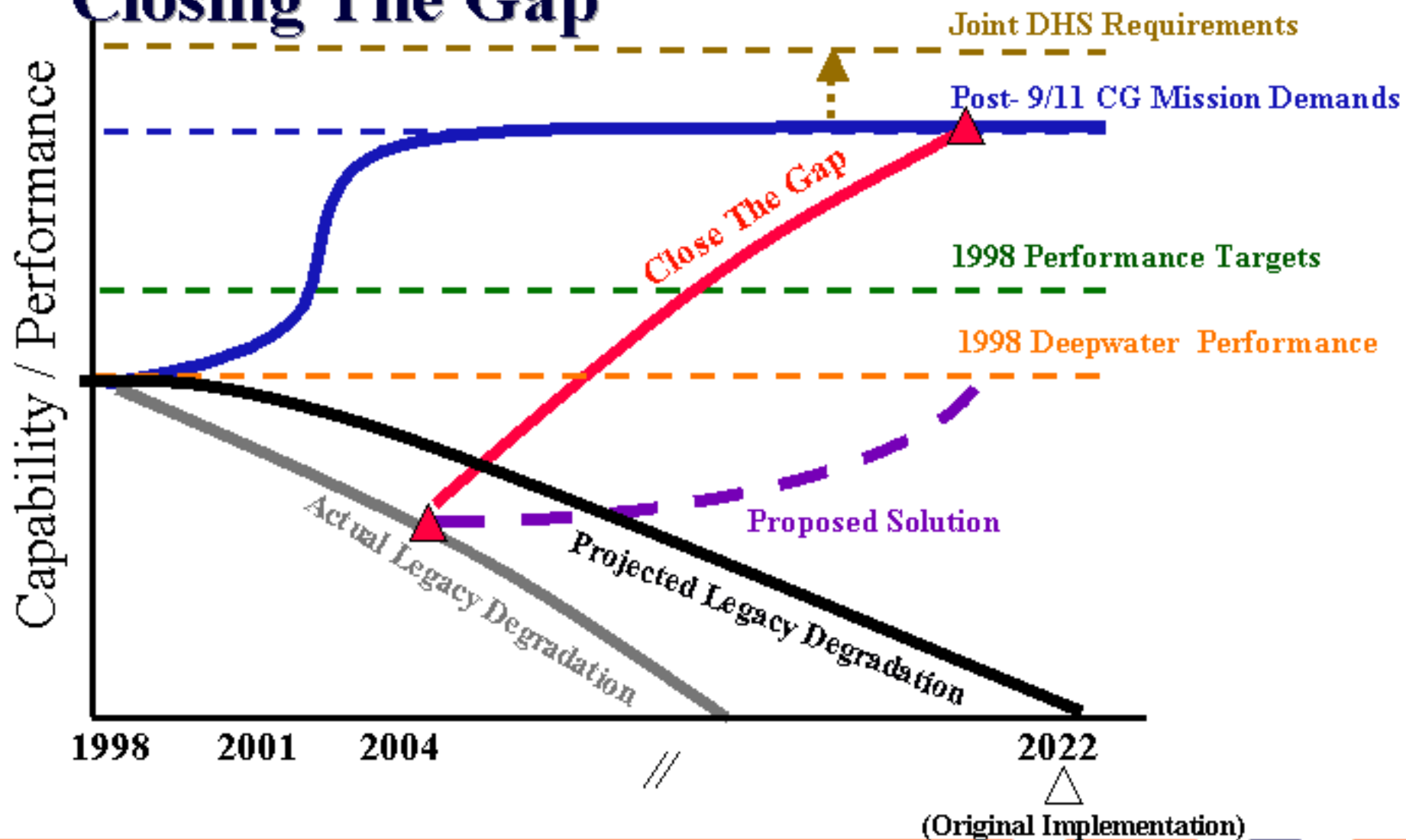
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Closing The Gap

Joint DHS Requirements

Post- 9/11 CG Mission Demands

Close The Gap

1998 Performance Targets

1998 Deepwater Performance

Capability / Performance

Actual Legacy Degradation

Projected Legacy Degradation

Proposed Solution

1998   2001   2004   2022

(Original Implementation)

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New Requirements

- **Directed By Deputy Secretary April 2003**

- **Original Requirements Set Against 1998 Baseline**

- **1998-2002 Force Structure Reductions**

- **Post-9/11 Requirements, OPTEMPO Increases**

- **Transition to DHS, Mission Demand Changes**

- **Legacy Fleet Deterioration**

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Deepwater Studies & 3rd Party Validation

- **Center For Naval Analyses (CNA), 2002:**
  - 60% more cutters, 20% more Patrol Boats, 30% more aircraft

- **Brookings, 2003:**
  - "Expand the capabilities of the Coast Guard"

- **USCG Performance Gap Analysis (PGA), 2003:**
  - Significant capability, capacity, performance gaps

- **RAND, 2004:**
  - 50% more surface; 33% more air

- **MITRE, 2004:**
  - "MITRE found that the PGA process, and the resulting analytic results, was likely the most complete & comprehensive campaign level study conducted by any uniformed service in recent times."
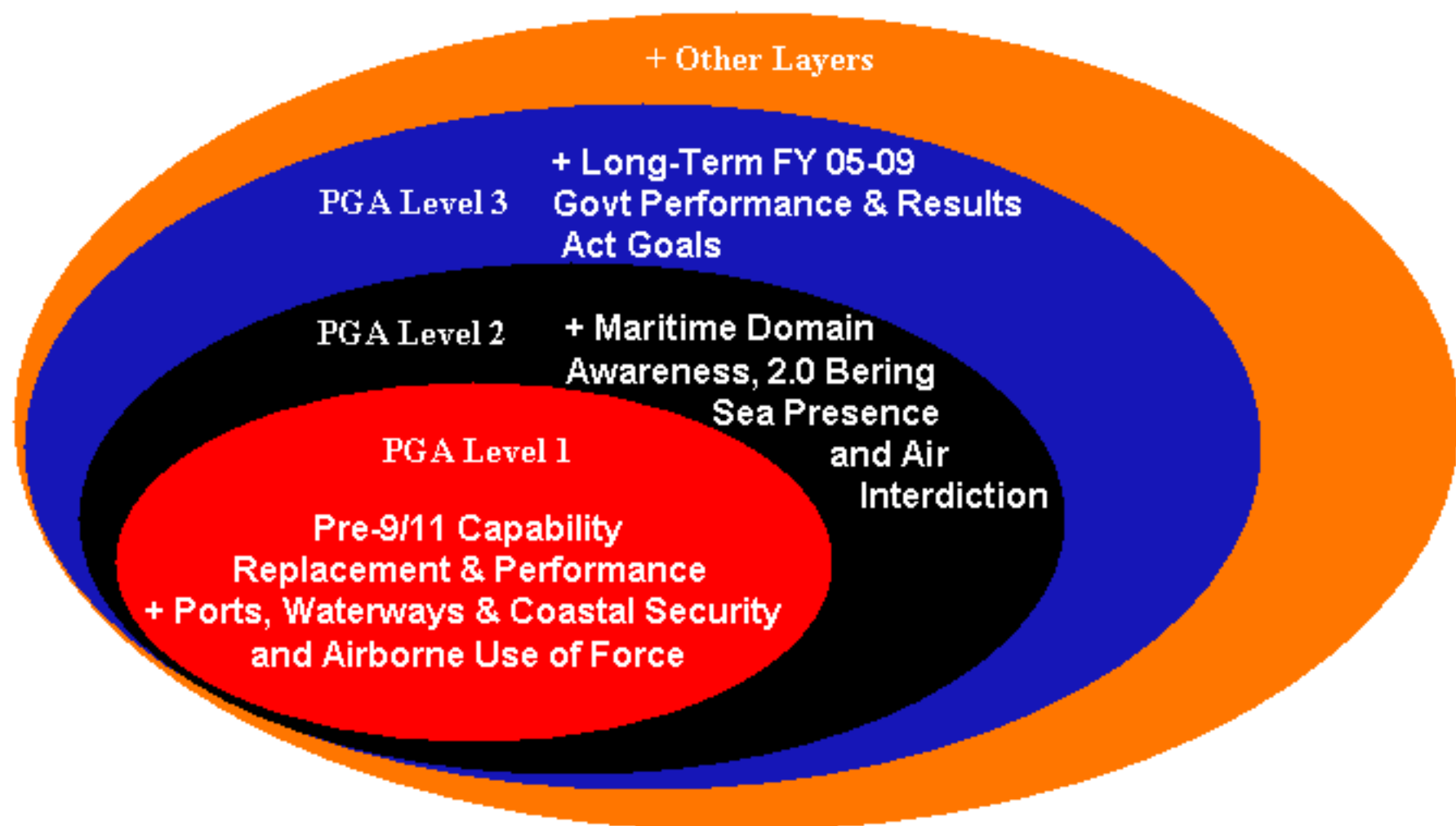
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Performance Gap Analysis - Capacity

+ Other Layers

PGA Level 3 — + Long-Term FY 05-09 Govt Performance & Results Act Goals

PGA Level 2 — + Maritime Domain Awareness, 2.0 Bering Sea Presence and Air Interdiction

PGA Level 1 — Pre-9/11 Capability Replacement & Performance + Ports, Waterways & Coastal Security and Airborne Use of Force

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Performance Gap Analysis – Capability

Post-9/11 Capabilities Added to Deepwater End-State:

- Naval Operational Capabilities (NOCs) for New Cutters
- Airborne Use of Force
- Vertical Insertion, Vertical Delivery
- Organic Air Transport/Heavy Lift (NSF/MSSTs)
- DHS/DoD/C4ISR Interoperability
- Intelligence Information Sharing/MDA
- Common Operational Picture Info Exchange/MDA
- CBR Detection & Defense
- Anti-Terrorism/Force Protection
- Underwater Detection
- Air Intercept

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Check us out: www.uscg.mil/deepwater